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The Dedication of Gilman Hall, University of California

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THE DEDICATION OF GILMAN HALL, UNIVERSITY OF CALIFORNIA

The University of California celebrated its semicentenary during the week March 18 to 23, 1918, with an appropriate and interesting program of events, one of which was the dedication on Friday, March 22, of a new building for chemistry which as it now stands is the front wing of the future Chemistry Building of the University. It was erected at a cost of $220,000; measures 190 by 60 feet; has four floors, a basement and a sub-basement; and constitutes a departure from the architecture of the new University in being built of reinforced concrete.

The addresses delivered at the dedication exercises, at which Professor Edmond O'Neill, of the University of California, presided, are printed in full below.—[Editor]

INTRODUCTORY ADDRESS

By Edmond O'Neill, Professor of Chemistry, University of California

We meet to-day to dedicate this building. It is called Gilman Hall, in honor of Daniel Coit Gilman, the first President of the University, from 1870 to 1874. Under his administration the University was organized, the Faculty enlarged, and the course of instruction amplified. Unusual for the administrators of his day, he believed in the importance of science, and it was through his efforts that the College of Chemistry was established and the first laboratory built.

Afterwards, as the first president of Johns Hopkins University, he had a larger field for his administrative genius, and we all know the impetus given to science as the result of the establishment of Johns Hopkins, of the eminent leaders of science that were gathered in its halls, and of the influence of its sons in so many American universities. For these reasons it is eminently fitting that this building should commemorate his name, and the words Gilman Hall will ever serve to bring back his personality and the services he rendered to this University.

The dedication of a building is like the launching of a ship. The architect, or the designer, must plan his building, or his vessel, keeping in mind the experience of the past, endeavoring to correct errors, planning improvements, giving rein to his imagination to create a new design more beautiful, or more harmonious, or better fitted for its purpose. And then comes the period of building when the architect or designer sees his dream take form, when the artisans fashion the stone and the steel and the wood, each workman a specialist in his task, each craftsman doing the work that lies before him, in apparent confusion and aimlessness. But gradually the structure shapes itself, the casual onlooker can understand the meaning of the seeming disconnected efforts, can recognize the outlines of what it is meant to be, and finally the building or the ship is finished and ready for its purpose.

The launching or the dedication is a gala day, a day of festivities and celebration. The vessel glides down the ways festooned with banners and streamers, with the sound of music and the plaudits of the assembled multitude. The dedications of great buildings are carried out with pomp and ceremony. Are those ceremonies and festivities merely in commemoration of the completion of a great work? Only in part. It seems to me that it is more a mark of what the future will bring. The ship sails away to foreign shores, with its passengers and cargo, bearing new materials and new ideas to other parts of the world and returning with a freight of material and spiritual things for our enlightenment and betterment; and so it is with this building. We commemorate its completion, we recall to our mind the labors and devotion of the architect and advisers and builders of this beautiful structure. But still more, this dedication is to mark the promise of the future. Year after year students, instructors and investigators will work in these laboratories, teaching the experience of the past, expounding the knowledge of the present, and unveiling the mysteries of the future. Future generations will throng this hall; professors and students, mutually helpful, pioneers in science exploring new fields, attacking new problems, solving the riddles of the Universe.

To-morrow is the fiftieth birthday of the University. The founders of the College of California are not here to witness the development of their little college. I remember as a boy going to the evening lectures of Professor Carr, the first professor of chemistry, where he presented the elementary principles of chemistry, illustrated with experiments. Although it was fifty years ago, I remember the lectures and experiments as though they occurred yesterday. It fired my imagination and gave me my first insight into the charm and interest of science. Little did I think then that fifty years later I would assist in the dedication of a chemical laboratory, many times larger, many times more costly, than the entire college of those days. Would that the men of those times could be present here this week, to see the great tree that has grown from the little seed they planted in the sixties.

The development of the Department of Chemistry may be divided into three periods: the first period from 1870 to 1890, the second period from 1890 to 1918, and the third period to-day. The beginning of each of these epochs is marked by the erection of a new building.

South Hall, the first edifice on the Campus, was to a large extent devoted to chemistry. The original plan was to build it entirely of granite, but owing to lack of money the granite was used only to the first floor, the remainder being of brick. But the building was good. Only the best material was used. Iron straps, for bracing and binding, were freely used and the building has stood the test of time, weather, earthquakes, and use, for nearly fifty years, and it is as sound and good as it ever was.

The cost, when labor and material were a fraction of what they are now, was $180,000. The architect was David Farquharson. The furnishing and equipment were of the highest quality. The interior furnishings were of California laurel; the laboratory desks were of black walnut; the hoods were made of plate glass. Everything was of the very best, and the laboratory when completed was far superior to any in America and unexcelled by any in the world. The faculty was small, the students few in number, but the spirit was fine. Of the chemistry instructors of those days two have passed away, Professors Rising and Christy. Professors Stillman and Slate are still with us. Under their inspiring and enthusiastic leadership, together with the smallness of the classes, and the lack of distracting avocations and activities, now unhappily so prevalent, we could devote ourselves to study and reflection and discussion in a leisurely way which now no longer is possible. The closeness of association of professor and student, so often referred to by the old graduates, was the rule. The small college in the midst of uninhabited fields of Berkeley had a charm that can never come again.

The University grew, and with it the Department of Chemistry. In spite of the erection of a number of other buildings, South Hall became too small for the accommodation of the chemistry students and, in 1890, the Regents erected the adjacent Chemistry Hall, devoted entirely to chemistry. The late Clinton Day, an alumnus of the College of California, was the architect. The cost was $62,000. Additions were made from time to time until the cost as it now stands amounts to about $100,000. This structure marks the second stage in the development of the College of Chemistry.

Just as the building was devoted to chemistry alone, so the course of instruction in the College was narrowed to specialized chemistry. In the early days the College of Chemistry served the purpose of a College of Natural Science, which at that time did not exist. Students interested in general science enrolled in the College of Chemistry. The creation of the College of Natural Science, now merged with the College of Letters, as the College of Letters and Science, gave the general science student greater freedom in the choice of his studies, and the College of Chemistry could devote itself to its more special instruction.

This condition continued until the advent of Professor Lewis in 1912, when the graduate and research departments were organized. The conditions of the seventies were reproduced, the graduate school taking the place of the early College. The small number of students, the group of young and enthusiastic instructors, the close relations in the laboratory and the seminar, serve as a reminder of the old laboratory in South Hall.

This building, in a material way, brings back recollections of the seventies. Like South Hall, it has its deep foundations, its massive wall, its tons of steel reinforcement. It will prove a monument to the architect, John Galen Howard, and to the State of California, who, as in 1870, provided the great sum of money for its erection.

But this structure, beautiful and genuine as it is, its varied and costly equipment, with electric furnaces that will melt platinum or granite, its liquid hydrogen plant, by means of which we will approach the absolute zero, its delicate measuring instruments which will show a variation of 0.00001 degree, will all be valueless if they are not put to real use. Real use will require real men. If a company of instructors and students imbued with the true spirit of research, with genuine love for learning, with intelligence and will, with enthusiasm and persistence, with patience and industry, will devote themselves to solving the secrets of science, the mysteries of nature, then this building will serve its purpose. I can safely say that within this hall is gathered such a company, and it is with the confidence of this knowledge that we assemble here to-day to dedicate this building to its high purpose of advancing knowledge, to reach a little further into the unknown, to teach the truth, and to help mankind in its quest for happiness.

We have spoken of the spirit of the old laboratory in South Hall, of the fine relations between instructor and student, and of the charm of the environment. One of the men who exemplified this spirit is with us to-day, John Maxson Stillman, student in the College of Chemistry, 1870 to 1874, Instructor of Chemistry in the University of California, 1875 to 1882, later Professor of Chemistry and Vice President of Stanford University, now Professor Emeritus. Dr. Stillman is a most fitting representative to take part in the dedication of this building. I wish to take this opportunity of paying a personal tribute to him in the part he played in the early University. He has been identified with the development of chemistry in California since the beginning. His influence as a teacher has been wide-spread and far-reaching. With respect and affection, I present him to you and will ask him to tell us something about the early University and what this dedication means to him.

ADDRESS

By John Maxson Stillman, Professor Emeritus of Chemistry, Leland Stanford University

Permit me first to express my appreciation of the courtesy extended to the University I represent and of the honor conferred upon me by the authorities of the University of California, in inviting me to participate in the dedication of this new and splendid temple to Chemical Science.

As a representative of the Department of Chemistry of Stanford University, I take pleasure in extending to the University of California and to our friends and colleagues of the Department of Chemistry our heart-felt congratulations upon this important addition to the equipment and therefore to the efficiency of chemical training in the University.

I voice the sentiments of my colleagues of Stanford in expressing our hope and confidence in an ever-increasing development and an ever-widening influence of this department upon the growth of chemical science in America.

It is, however, not only as a representative of a sister institution that I am deeply interested in the occasion which brings us together here. When, forty-five years ago, the University first established itself at Berkeley, laboratory instruction in chemistry was first systematically undertaken, and it was my valued privilege, as assistant, and later as instructor, to have participated in the work of the pioneer period of this Department of Chemistry.

It is not an easy matter to span this gulf of years with full realization of the different conditions prevailing then and now —conditions affecting not merely the facilities of this University for the teaching of chemistry, but the relations of chemical education to public demand and appreciation. Indeed, it is difficult to now realize the great difference in the relations of university ideals in general to the popular comprehension which underlies public support, as they obtained then as they now exist.

The last published catalogue of the University shows a student body in the Colleges at Berkeley numbering 6780 students. In the first year at Berkeley the total registration was 191.

The latest register shows a teaching force in the Chemistry Department of eight professors, one lecturer, five instructors, and fourteen assistants, or thirty altogether. In 1873 to 1874 there was but a single professor, Professor Willard B. Rising, who came to the work fresh from several years' training in the best laboratories of the old world and who brought with him methods and ideals of chemical training abreast of the time. He was assisted that first year by but three undergraduate assistants, seniors in the College of Chemistry. While the spacious laboratories of chemistry have been in recent years continuously overcrowded by their almost thousands of workers, the two modest laboratory rooms in old South Hall were in those early years never overcrowded by their few dozens of students.

And these comparative figures are indicative of, and to a great extent a measure of, the changes that have taken place in the public appreciation of the value of university ideals, and of the importance of chemistry to the public welfare.

The career of the chemist in those days offered few inducements and little of promise. The Pacific Coast in particular still lingered in the epoch of exploitation of its rich natural resources in gold and silver, grain, cattle, and timber. The occupation of chemist meant to the general public little more than that of assayer of gold and silver, or pharmacist. Outside of mining, the chemical industries were few and were conducted primitively and on traditionally established lines. Indeed, the chemical industries of the whole United States were largely contented to depend upon the scientific and technical achievements of Europe.

Those were years of sacrifice and of many trials for the little band of teachers with advanced concepts of university education and for their relatively few but very earnest supporters in California. Isolated by distance from sympathetic co-workers in the Eastern States, struggling against public apathy, and battling against attempts to obstruct their aims or to divert from the young University its needed financial support, their disappointments were frequent and their discouragements many.

So much the greater honor to those who nevertheless against all opposition kept the course of the University ever steadily onward toward the highest ideals, until such time as the people of California, recognizing at last the value of the service rendered, rallied loyally and generously to its support.

A great leader of those who formulated and fought for high university standards was he who from 1872 to 1875 held the office of President of the University, Daniel C. Gilman. Though but for three years he was with us, those were critical years. The organization of Johns Hopkins University, the unique position it very soon commanded among American universities and the prestige it so long maintained are the lasting monuments to the high ideals and the organizing ability of President Gilman. And if not so conspicuously, no less effectively, was his influence exerted in the infancy of the University of California.

The clear judgment, the sound ideals of scholarship, and the friendly encouragement of President Gilman awakened and nourished the ambitions of many of the students of those early years to persevere in attaining the most thorough training obtainable for the educational career, when conditions generally were disheartening to such aspirations.

And so it appeals to me as very appropriate that this new laboratory, devoted to the extension of chemical knowledge, should bear the name of Gilman, our pioneer leader, whose far-seeing vision, and whose wise initiative laid broad and deep the foundations upon which, under enlightened leadership, the splendid superstructure of our State University has been erected.

I have a letter from President Gilman written forty years ago which will not be without interest to-day.

Baltimore, February 16, 1878

MY DEAR STILLMAN:

There are no letters (except family letters) which give me so much pleasure as those I receive from California, and within a few days I have been favored with excellent varieties of the species, from your pen and Mr. Stearns'. My last previous letter was from Prof. Rising. . . . . . I have had many printed papers referring to the progress of the University of California, including the notes of Mr. Bacon's proposed gift, the Report of the Regents, the lectures of Prof. Becker, etc. In all these signs of growth and progress I rejoice with all my heart. I have always believed that the good forces in California would overcome the bad elements, and that we should see a university on the Berkeley slopes, strong and sound, helping on all the interests, social, industrial, political, literary and scientific. It is a great pleasure to me to see on the Register, which has also come lately to hand, the names of former students enrolled among the instructors. The faculty of a college, as it seems to me, should be in part composed of alumni of the institution and in part from men trained elsewhere. The former know the situation—its good points and bad, they love their Alma Mater and are quick to defend and advance her interests. The latter bring in good ideas from other institutions and prevent the concern from moving in too firm a routine. As I write, your name and Jackson's and Christy's, and Slate's, and Rowell's and Parkers' and Hinton's and ever so many more occur to me as those on whom the University might well rely. Royce would be a great addition to your company. He has certainly a very remarkable mind and is I think likely to become a man of great distinction. . . . . Give my kind regards to all your comrades and believe me ever your friend.

Sincerely,
D. C. Gilman

It is at a momentous time in our national history that Gilman Hall is opened for research and instruction. But it is also an auspicious time. For do we not all see now, as we have never seen before, that America must never again be satisfied to be dependent upon any other nation for the vital necessities of national life, either in her industries or in the scientific knowledge upon which these are founded? Yet it is in the chemical field that in the past our unpreparedness has been most flagrant. The many serious problems, which in this time of war are tasking to the utmost the chemical skill and science in this country, are not more serious and not more numerous than those which will call upon chemical science in the strenuous years to follow, when peace shall some time come to this war-torn world.

May Gilman Hall, under direction of its wise faculty and with the loyal support of the people of California, contribute in generous measure to the solution of the future problems confronting the chemists of America. For the American people are at last fully aware that the security and the prosperity of this nation is dependent in no small measure upon the self-dependent character of its chemical science and chemical industries.

....

Professor O'Neill then introduced the next speaker as follows:

Dr. Stillman represents the old University. Since his time a new generation has come into the field to carry on the work. We older men must lay down our burden to be taken up by the younger ones.

Dr. Lionel H. Duschak is a fitting representative of this younger group. A graduate of Michigan and Princeton, Superintendent of the Berkeley Division of the Bureau of Mines, a specialist in physical chemistry, he will serve in the ranks of chemists and carry forward the banner of the scientist. For a long period yet to come, he and his contemporaries will see the uses to which this building will be put, will watch the work that will be done in it, and will make use of the results and discoveries made in this laboratory. As a representative of the younger generation of chemists, I present Dr. Duschak.

ADDRESS

By Lionel Herman Duschak, Superintendent, Berkeley Station,
U. S. Bureau of Mines

As a representative of the younger men who are engaged in chemical work, I deeply appreciate the honor of being invited to participate in the dedication of Gilman Hall. We have watched with a real interest the recent growth and progress of the Chemical Department of this University and note with gratification that its needs for better facilities have been met by this excellent new building. May I extend to the University and the Chemical Department our congratulations on the event which gives rise to this ceremony?

It will occur to all of us that this occasion is one of particular significance to our part of the chemical world. Standing as a permanent addition to the chemical group, Gilman Hall is a milestone marking an important step in the development of the chemical work of the University. I wish to indicate by a few words what this development may mean to us. The underlying thought which I wish to convey to you is suggested by considering for a moment the relation of this University in its entirety to the commonwealth. I shall not attempt to define this, but wish only to call your attention to certain facts which have impressed me. As a part of this University we find colleges of mining and agriculture, which in many States form separate, and all too frequently, competing institutions. We find courses in music, in commercial education and in other branches which are frequently offered only in special schools. We observe a quick response on the part of the University to growing popular interest in any new line of endeavor. This is not to be interpreted in any sense as a concession to faddishness, but rather as an evidence of virility, of alertness, of a desire to assist in realizing the greatest good from each new activity by giving it the benefit of the scientific study and technical direction available in the great University workshop. This University has maintained to an unusual degree a close and helpful contact with the complex and ever-changing activities of the life about it.

May we not take it for granted then that this splendid new building will be used by the Chemical Department for corresponding efforts in its own particular field; that the increasing chemical activity within the University implies a corresponding increase in the helpful influence which will emanate from this center to the broad and varied fields of chemical activity without?

Research in so-called pure science has been aptly referred to as the foundation upon which all scientific work rests. One should not think of this foundation, however, as a mass of concrete lying cold and inert in the earth, but rather as the trunk of a great tree, which is constantly pushing forth its roots into new and unpenetrated earth, tapping new sources of vital energy. We shall expect first of all then that the activities in this new building will supply leadership in the field of theoretical chemistry, a field in which this Department already occupies a prominent place. This leadership will come in part from the trained men continually going out from the University.

Consideration of the practical value of a theoretical advance is rarely, if ever, the compelling motive of the investigator. He has a less material vision before him. To-day, however, no one regards it as a degradation of science that such practical application should be made. It is an interesting fact that some of the recent and highly fundamental theories and conceptions of physical science have received direct practical application. As an example, the new type of X-ray apparatus developed at the research laboratory of the General Electric Company may be cited. In fact, chemistry would enjoy but a restricted existence and would probably suffer decay were it not making its rich and varied contributions to the daily needs of the world.

The ideal and the material must go hand in hand, and in this new building, which is being dedicated to-day, there is abundant evidence that both aspects of chemistry will be given due attention. The variety and extent of the material resources of the Pacific Coast are more or less well known. Their utilization has only just begun. In unlocking the great storehouses of this region the chemical pioneers will look to the University for assistance in many ways. In this connection it is well to remember that as we pass from experimental work for a theoretical purpose to that with material ends in view, we usually approach operations of an extremely simple character. The basic principles will be obvious and well understood and the technician's skill is more particularly required in detecting and controlling what may superficially appear to be details of small importance. The solution of a seemingly minor problem may bring major results.

Members of the Chemical Department will be proud to recall later on that much of the equipment for experimental work of a more practical character was first used in the study of problems having to do with the utilization of local materials in meeting the needs of our country in the present great conflict.

The relation of chemical work within the University and that without should not be one-sided. We on our part wish to stand in the most friendly and helpful relationship to the Department, to assist where possible, to the end that it may achieve the largest measure of usefulness. With the idea of friendly coöperation and mutual helpfulness in mind, the dedication of this new and splendidly equipped building has an almost individual significance to each one of us.

In the years to come there will grow up about Gilman Hall rich memories like those which now enshroud its older companions. In this new era just beginning the Chemical Department will continue true to its early ideals and traditions and will carry forward the standards so splendidly maintained throughout the past.

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